

ABSTRACT

Sonja Chocolate Factory (SCF) is a home industry that also become a sub-contract of the largest cocoa processing company in Indonesia. The type of product produced here is couverture chocolate which is the best quality of chocolate. Currently, SCF losses for loss of opportunity to get more profit due to inability to meet all the demands given by the parent company. Therefore designing a system that can cope with these problems, the automated production system, is needed by SCF. Before the automated system is implemented, it is needed to make a good planning because the cost of the implementation is not cheap.

This study is focused on the design of the needs of automated system in couverture chocolate processing which is called as User Requirement Specification (URS) consists of the Process Description, Process and Instrumentation Diagram (P&ID), and Control Philosophy. Process description describes the desired process flow of couverture chocolate processing, including equipment and instruments used, ingredient specifications, and process control systems. Process and Instrumentation Diagrams (P&ID) describes the relationship between processes, equipment, and instrumentation which is used to control the process. Control Philosophy describes wisdom and basic principles related to the control systems.

Based on the research that has been done, it can be concluded that the design of the User Requirement Specification (URS) consists of the Process Description, Process and Instrumentation Diagram (P&ID), and Control Philosophy has successfully designed.

Keywords: *Automation, User Requirements Specification, URS, Process and Instrumentation Process Diagrams, P & ID, Control Philosophy*